

CLAIMS

1. System for machining objects (11) using a laser beam, characterised in that it comprises:

- 5       - a supply of objects with prepositioning on their reference surface,
- an object support tray (10),
- a galvanometric head (12) comprising:
  - 10       • a first wide field camera (13) with its focusing lens (14), with a first filter (15) located at the output from the first camera,
  - a second narrow field camera (16) with its focusing lens (17), with a second filter (18) located at the output from the second camera,
  - 15       • a guide mirror (20),
  - galvanometric deflection mirrors (21, 22),
  - a lens (23) that displays at least one object (11) located on the tray (10).
- a laser source (24),
- 20       - a computer (25) on which a shape recognition software (26) is installed for checking operation of the said first camera, the said second camera, the said laser source and movement control means for the said
- 25       galvanometric head (XYZ).

2. System according to claim 1, comprising first and second reflecting galvanometric mirrors (21, 22).

30       3. System according to claim 1, comprising a retractable mirror (20).

4. System according to claim 1, comprising a flat field lens (23).

5        5. System according to claim 1, comprising a belt (19) carrying objects to be machined on their reference surface, preceded by a pre-positioning supply for parts (11).

10       6. System according to claim 3, comprising a reactive gas source (32) close to the tray (10).

15       7. System according to claim 1, in which the filter (15) at the output from the first camera (13) allows a wavelength of about 600 nm to pass.

20       8. System according to claim 1, in which the laser source (24) is a source with a wavelength of about 1064 nm, the filter (18) at the output from the second camera (16) allowing such a wavelength to pass.

25       9. System according to claim 1, in which machining corresponds to marking, welding, drilling, cutting or heat treatment.

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10. Method for machining objects using a laser comprising an object support tray (10), a galvanometric head (12), a laser source (24), and a computer (25), the said method including steps to:

30       - deposit objects (11), positioned on their reference face, on the said tray (10),

- display of all these objects (11) in wide field, with identification of each object (11) with its position and its orientation,
- 5       - display the area to be machined in narrow field with high resolution, on one of the objects (11),
- machining of this object (11) using a beam output from the laser source.